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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,704	07/30/2003	Koji Arihara	051841-0109	5354

22428 7590 03/06/2006

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EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,704

Applicant(s)

ARIHARA, KOJI

Examiner

Justin Krause

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 7, line 1: "tile" is believed to be a typographical error

Page 7, line 31-33: "A bolt rotatably and axially supports eccentric bush 26 and collar 29 by means of a bolt." is repetitive.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Tomaru (US 2002/0124677).

Tomaru discloses tilt adjustable steering column assembly for an automotive vehicle, comprising:

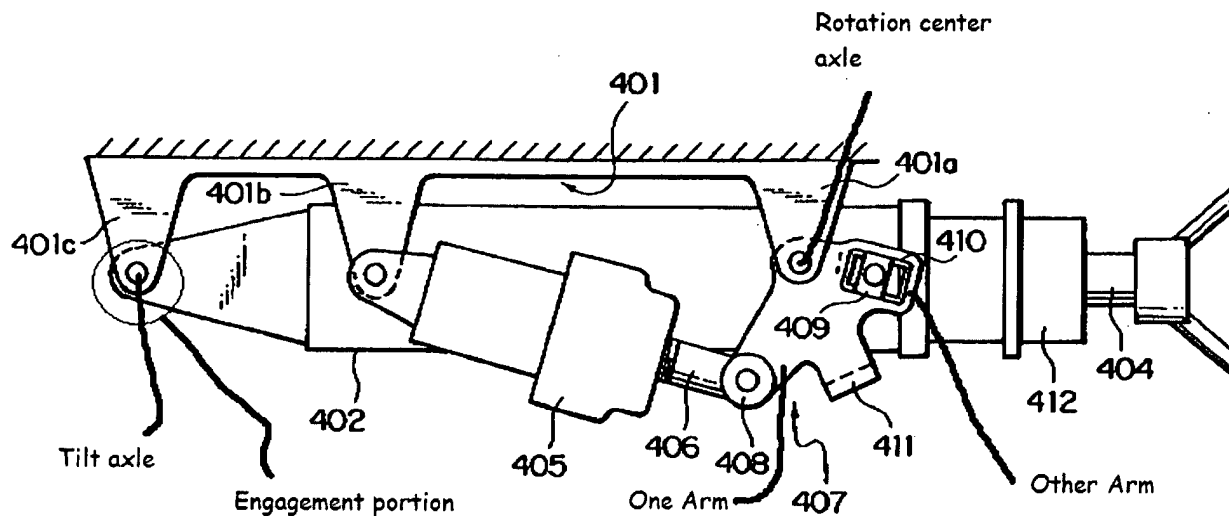
an elongated jacket tubular member (Fig 19; 402) having a tilt rotation axle (end near 401c) at one end thereof;

a fixed bracket (401a) placed at a predetermined middle position of the jacket tubular member and having an engagement portion that is engaged with a tilt input axle mounted on the jacket tubular member;

a bell crank lever (407) having a rotation center axle rotatably supported on the fixed bracket and rotatably supports the tilt input axle of the jacket tubular member on one arm thereof;

and an actuator (405 with 406) having a rod portion to operatively actuate another arm of the bell crank lever to be moved to pivot the bell crank lever, the fixed bracket supporting the rotation center axle of the bell crank lever to enable the rotation center axle of the bell crank lever to swing with respect to the fixed bracket and the engagement portion of the fixed bracket being formed in an elongated hole (410), the elongated hole being formed to coincide with a pivotal orbit of the tilt input axle about the tilt rotation center of the jacket tubular member.

FIG. 19



Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3, 5, 6, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomaru in view of Minamoto et al (US Patent 5,048,364).

Tomaru discloses all of the claimed subject matter as described above.

Tomaru does not disclose an eccentric bush interposed between the rotation center axle of the bell crank and fixed bracket.

Minamoto teaches an eccentric bush (40, fig 7) to absorb the difference in locus between the linear motion of the actuator and arc motion of the tilt device. (Col 3, lines 40-43)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify steering column assembly of Tomaru and incorporate an eccentric bush as taught by Minamoto as a way to absorb the difference in locus between the linear motion of the actuator and arc motion of the tilt device.

Regarding claim 3, a predetermined eccentric distance is provided between a rotation center axis and the rotation center axle of the bell crank because the eccentric bush must have a hole in it for the rotation center axle to pass through, and therefore requires a predetermined eccentric distance to be established in order to make the hole in the bush.

Regarding claim 5, the predetermined distance is provided as compensation for error between the rotation orbit of the input axle and the axial distance between the rotation center axle and the tilt input axle as radius of curvature and the center line of the elongated hole. (Minamoto Col 3, lines 40-43)

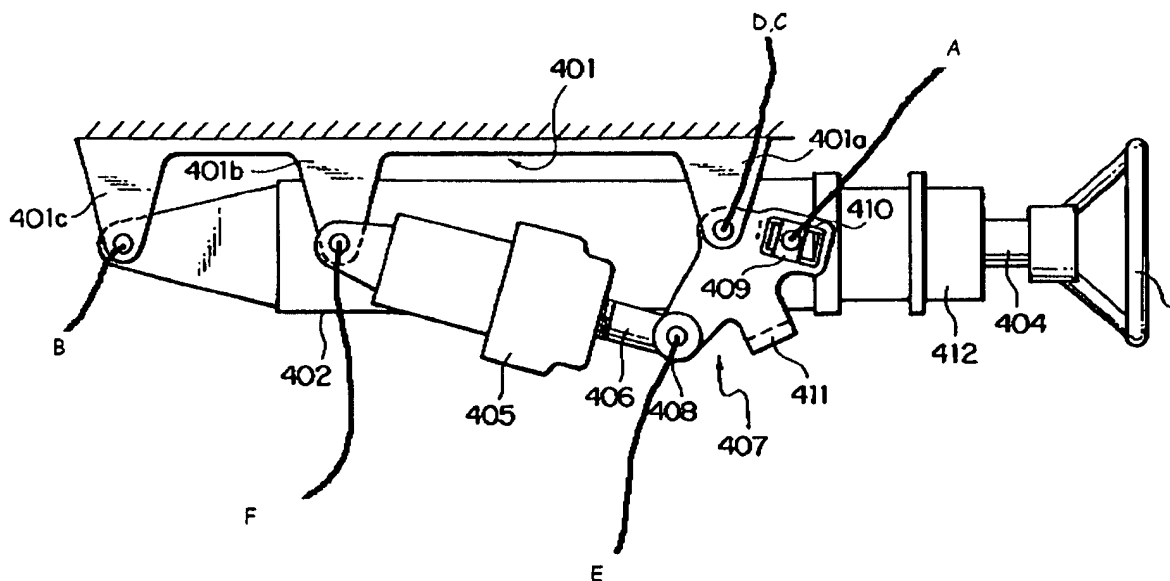
Regarding claim 6, Tomaru discloses a guide member (416a, 416b) attached around the elongated hole.

Regarding claim 8, the elongated hole is of a substantially ellipse shape.

Regarding claim 9, Tomaru discloses the fixed bracket fixed onto the vehicle body (as illustrated by ground marks in Fig 19), the tilt rotation center axle rotatably

supported on a vehicular body forward bracket (401) via a first auxiliary bracket (401c) integral to the vehicular body forward bracket and a second auxiliary bracket (401a) is interposed between one arm of the bell crank lever and the jacket tubular member.

Regarding claim 10, the turning pair points are indicated in the drawing below using the same reference numerals (A-F) corresponding to the first through sixth turning pair points as described in claim 10. Points D and C appear to be directed to the same point, however are different due to the movement of the eccentric, which is not illustrated due to the fact that it is an incorporated teaching of Minamoto.



6. Claims 4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomaru and Minamoto as applied to claim 3 above, and further in view of Heinzman et al (US Patent 5,669,634).

Tomaru and Minamoto disclose all of the claimed subject matter as described above but do not show a center line in an elongated direction of the elongated hole is made coincident with a curvature of the pivotal orbit of the tilt input axle

Heinzman teaches an elongated hole (84a and b) with the center line an elongated direction made coincident with a curvature of the pivotal orbit of the tilt input axle (60b) which allows the steering column to be adjustable. (see figure 2, Col 3, lines 31-38)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the elongated hole geometry as taught by Heinzman into the steering column of Tomaru and Minamoto as a means to allow the steering column to be adjustable. The bell crank arm of Tomaru already rotates in an arc coincident with the tilt input axle as illustrated in Figs 19-21, the addition of a guide form would be easily facilitated without hindrance to the function of the device.

Regarding claim 7, Tomaru discloses a steering wheel (403) attached to the other end opposite to the one end thereof.

Regarding claim 8, Heinzman discloses an elongated hole that is substantially elliptical in shape.

Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMK
3/1/06


RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER